UNDERGROUND TRAVEL.

THE BOSTON SUBWAY PARTLY COMPLETED AND IN OPERATION.

A BRIGHTLY LIGHTED TUNNEL AFFORDING RAPID TRANSIT FOR ELECTRIC CARS—CONGESTION OF THE STREETS RELIEVED.

The subway for streetcars in Boston, a part of which has just been opened for service, is an enterprise of more than local interest. The necessity for some relief to the crowded thoroughfares above it can best be appreciated, of course, by Bostonians; but the Modern Athens is by no means the only city in this country which is beset with problems of the same character.

Those who are familiar with "the lay of the land" in Boston remember that Tremont-st. runs in a generally north-and-south direction and forms the eastern boundary of the Common. It is intersected by Boylston-st., which constitutes the southern boundary of that historic park. On the Boylston and Tremont st edges of the Common there is a broad promenade, known as the Mall. The main part of the subway, which is wide enough to accommodate four tracks, passes under the Tremont-st. Mall, and, after passing under Park-st., which lies along the northern side of the Common, extends (or will extend, when completed) to Scollay Square, thence eastward to Adams Square, and finally up northward again to Haymarket Square. This terminus is close to the great union railway station at the North End.

From the corner of Tremont and Boylston sts. there are two extensions, wide enough for only a double track. One runs westward under Boylston-st. Mall for about 900 feet, and then ascends an incline through an open cut for 318 feet. The terminal station for this branch is situated in the Public Gardens. The other branch reaches away to the southward, and, on nearing the junction of Shawmut-ave. and Tremont-st., forks. A separate two-track incline leads up into each of those streets.

Including the inclines, the subway has a total length of about a mile and a half, and will contain about five miles of track. At present the branches from the corner of Boylston and Tremont sts. and the main line up to Park-st. are in operation. A great deal of work has already been done on the northern portion of the route, and it is hoped that everything will be finished within the next eight months. Ground was broken for the subway in April, 1895, twenty-nine months ago.

The depth of this underground passageway is 14 feet. The width is 24 feet for two tracks, and 48 feet for four. At intervals of six feet, along the sides, steel posts are set up on good foundations, and from the tops of those on one side there reach across to the tops of those on the other steel roof beams. Where there are four tracks there is a central line of posts in the tunnel, in addition to those along the sides. From one cross beam to the next there extends an arch of masonry. These successive arches, forming the roof, are covered with concrete; and the same material fills the space between the posts along the sides. A waterproof backing of asphalt assists in excluding from the subway water that might otherwise leak in from the soil. The masonry floor is hollowed, like an inverted arch, and along its central line there runs a drain. At intervals the drain discharges into a pit, from which, whenever the water rises to a certain level, the contents are withdrawn by automatically controlled electric pumps.

Ventilation is effected by huge rotary fans, established in masonry chambers at three or four points along the line. The air is sucked out of the subway, and forced upward through the openings to the level of the street. Hundreds of incandescent electric lamps and scores of arc lights are disposed advantageously along the interior. As electricity is also employed for the propulsion of the cars which use the subway, there is no smoke to accumulate on the ceilings, and no foul gases to offend the olfactory nerves. There is no reason why the place should not remain clean, sweet and bright for years.

At the underground stations, of course, the subway is broadened. A high wire fence runs lengthwise in the middle, separating the two northbound tracks from the two southbound. The tracks of each pair are divided by what engineers call an "island platform," say 30 feet wide, and 300 or 400 feet long. Access can be had to one platform from the other only by going down a low flight of stairs and through a narrow but brightly illuminated passage underneath, or else going up to the street and crossing over.

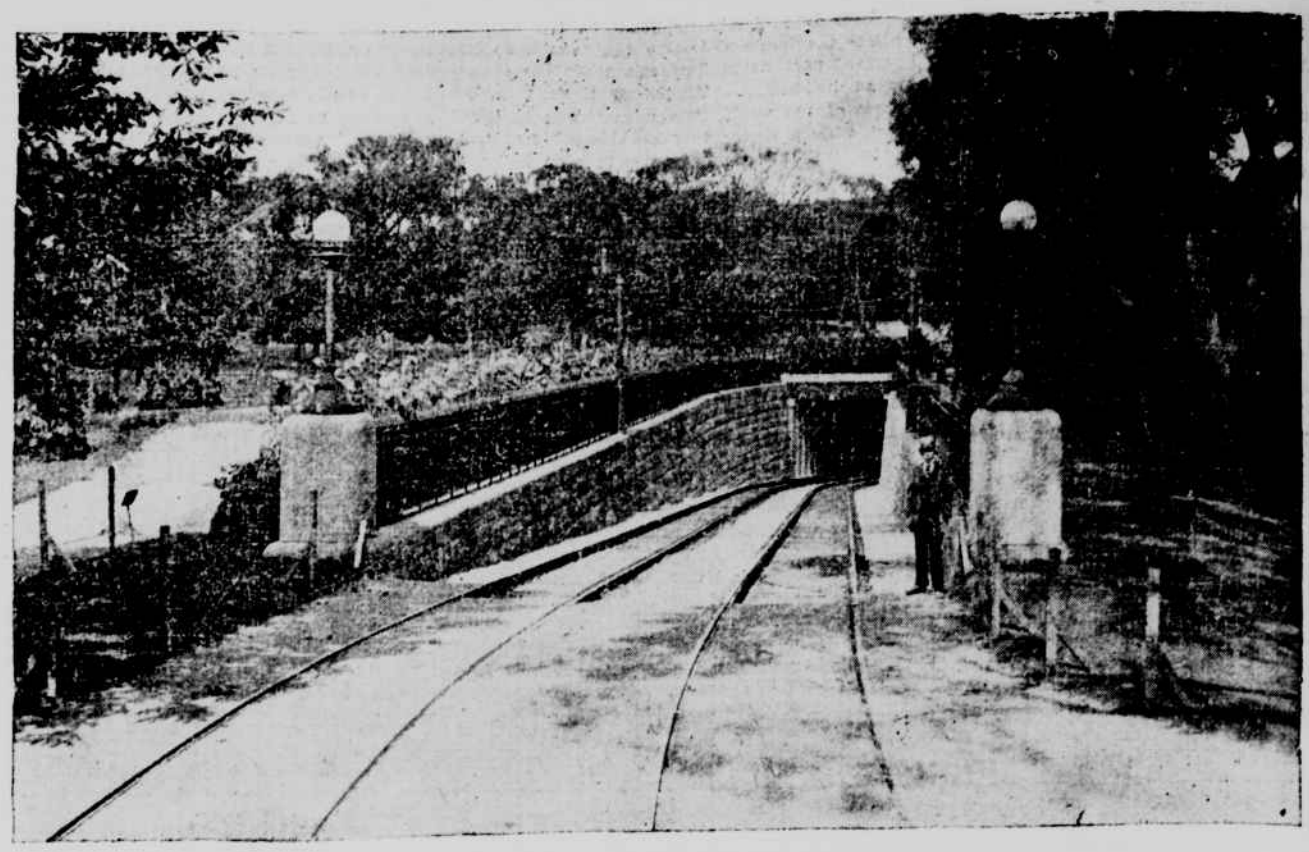
The cars which run through the tunnel are ordinary trolley-cars, but, like many which traverse other routes in the city, they are all controlled by one corporation, the West End Street Railway Company, to which, by the way, the subway has been leased by the Transit Commissioners. This fact partially explains some of the precautions taken at the stations. There one buys a ticket before boarding a car, or getting a chance to do so, and the conductor on the car collects the tickets. Exit from the station platforms is effected through turnstiles, which allow a person to pass in only one direction.

Broad, easy stairs lead down from the street to the underground stations. There are seldom more than thirty steps in a flight. There are two flights for the northbound tracks, and two for the southbound. The head of each staircase is inclosed by a neat one-story, glass-roofed granite building. Glazed white brick and plenty of white paint impart to the station interiors a fresh and cheery appearance. At present the only stations in use underground are at the corner of Boylston and Tremont sts. and at Park-st. A temporary loop at the latter point permits the northbound cars to return without switching. When the subway is completed, however, there will be other stations at Scollay Square, Adams Square and Haymarket Square.

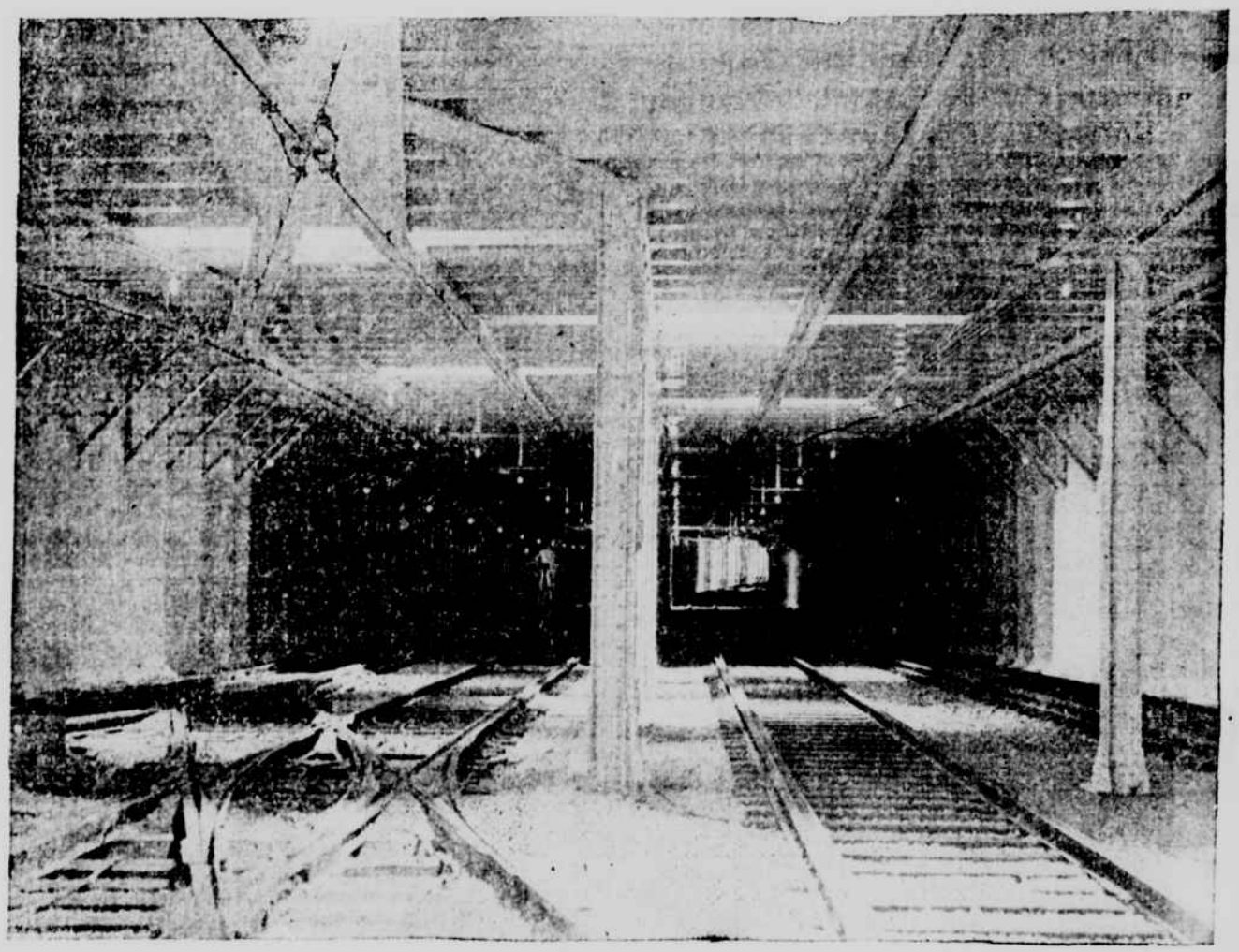
Only an engineer can begin to understand the difficulties of an undertaking like this. Countless sewers, water-pipes, gaspipes and telephone wire conduits have been laid close to the route, and some of these have been bared during the progress of the necessary excavation. When their position was at a higher level than the roof of the future subway it was not necessary to do more than to protect them carefully for the time. But if they were lower than the roof, and higher than the floor, the situation was more serious. Two great water mains, one thirty inches in diameter and the other forty inches across, were encountered at that very inconvenient level. It became necessary to construct siphons, bending down under the subway and up again on the other side, in order to adjust these conflicts of interest. For the happy solution of all these difficulties great credit is due to the City Commission intrusted with the work, to their chief engineer, and, in some measure, to the engineers of the West End Company.

An incidental but important feature of the plan of construction is the avoidance of grade crossings. In the four-track passageway the Boylston-st. cars have the two inside tracks, and the Tremont-st. and Shawmut-ave. cars use the two outer ones in common. Accordingly, at the southeastern corner of the Common, the westernmost track (southbound) is carried down under the two central ones, by a special one-track tunnel which soon emerges with another one-track tunnel carrying the up-track. At a point still further south a similar plan is pursued in the separating of the Shawmut-ave. and Tremont-st. cars.

The capacity of the subway is ninety cars per minute. Inasmuch as the facilities thus afforded are supplementary to those already afforded on Tremont-st., and are not a substitute for the latter, a distinct increase in the number of routes, as well as freedom from blockades, has been secured.



BOSTON'S NEW SUBWAY—INCLINE IN THE PUBLIC GARDEN.



BOSTON'S NEW SUBWAY—FOUR-TRACK SUBWAY UNDER TREMONT-ST.

REJUVENATING POSTAL CARDS.

From The Boston Transcript.

An advertisement has appeared in some of the daily papers in which a cash payment has been offered for uncancelled printed postal cards. It seems that many business houses have occasion to have a large number of postal cards printed to advertise some special line of goods or for the use of some travelling man. For some reason or other the conditions may change, so that perhaps only half of the cards are used. Being printed, they cannot be used in any other way, and the result is that in nine cases out of ten they are consigned to the waste basket, as the Government does not redeem uncancelled postal cards as it does stamped envelopes.

A process has been discovered by which all of the printed matter may be removed from the card, leaving it in the same condition as when bought at the postoffice. A charge of one-half cent per card is made for this work; or, in other words, a man sends five hundred cards to be "made over." The man who does the work charges $2 50 for his services, and the customer saves $2 50, as the printed cards were of no use to him.

WHY THE COW LOST HER APPETITE.

From The Muskegon Chronicle.

Several weeks ago a cow belonging to Rolla Payne began to lose its appetite and grow thin. There seemed to be nothing the matter with the animal, but it continued slowly to starve. It ate very little, just sufficient to keep life within its body, but not enough to sustain it any length of time. Mr Payne finally came downtown and consulted Dr. D. W. Rose, who sent up some medicine, but did not see the animal.

Six weeks passed and the cow grew thinner and thinner, while the owner grew more and more perplexed. One night the cow was seized with a violent fit of coughing, and during this coughed up a boy's ordinary baseball, two and one-half inches in diameter, which during all this time had been lodged in the animal's throat.

As soon as relieved of the ball the bovine began to improve, and its appetite increased amazingly. It has now recovered its old-time flesh, and is none the worse for its unusual feast.